UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,977	09/27/2001	Sriram Krishnan	JW-EMC-012	2951

24227 7590 03/03/2006

EMC CORPORATION
OFFICE OF THE GENERAL COUNSEL
176 SOUTH STREET
HOPKINTON, MA 01748

EXAMINER	
BATURAY, ALICIA	

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/964,977	KRISHNAN ET AL.	
	Examiner	Art Unit	
	Alicia Baturay	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 September 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the amendment filed 16 December 2005.

2. Claims 1-63 are pending in this Office Action.

Response to Amendment

3. The rejection is respectfully maintained as set forth in the last Office Action mailed on 23 September 2005. Applicant's arguments with respect to claims 1-63 have been fully considered but they are not persuasive and the old rejection maintained.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 19, 20-22, 39-42, and 59-63 are rejected under 35 U.S.C. 102(e) as being anticipated by Frazier et al. (U.S. 6,941,350).

6. With respect to claim 1, Frazier teaches a computer network having a plurality of nodes each of which has a DDB and one of which should be master node used to maintain contents of the DDB in each of the plurality of nodes consistent throughout the plurality in a manner

to avoid a single point of failure, the plurality of nodes including a first purported master node and a second purported master node, a system for resolving conflict in the network between the first purported master node and the second purported master node comprising:

Means for establishing a standard for comparison between the first purported master node and the second purported master node (Frazier, col. 10, lines 7-10); means for comparing the first purported master node against the second purported master node in accordance with the standard to obtain comparison results (Frazier, col. 11, lines 49-51); and, means for selecting the master node from the group of nodes consisting of the first purported master node and the second purported master node based on the comparison results (Frazier, col. 12, lines 20-32).

7. With respect to claim 2, Frazier teaches the invention described in claim 1, including the system further comprising:

Means for demoting the remaining node in the group to non-master node status as participating node in the plurality of nodes (Frazier, col. 12, lines 40-46).

8. With respect to claim 19, Frazier teaches a computer network having a plurality of nodes only one of which should be master node for managing the plurality of nodes in a manner to avoid a single point of failure, the plurality of nodes including a first purported master node and a second purported master node, a system for resolving conflict in the network between the first purported master node and the second purported master node comprising:

Means for choosing between the first purported master node and the second purported master node to obtain the master node (Frazier, col. 10, lines 7-10).

9. Claims 20-22, 39-42 and 59-63 do not teach or define any new limitations above claims 1, 2 and 19 and therefore are rejected for similar reasons.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 3, 4, 23, 24, 43, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frazier and further in view of Quoc et al. (U.S. 6,092,214).

Frazier teaches the invention substantially as claimed including a method in a node within a network computing system for selecting a master network manager. A first node shifts to a standby mode if it discovers a master subnet manager or the second priority is higher than the first priority. The first node shifts to a master mode if a response containing a priority higher than the first priority is absent in responses received by the first node. In the case where the priority received is equal, the comparison is further made in which the node with the lowest globally unique identifier wins the arbitration.

12. With respect to claim 3, Frazier teaches the invention described in claim 1, including means for establishing a standard for comparison between the first purported master node and the second purported master node (Frazier, col. 10, lines 7-10).

Frazier does not explicitly teach use of a temporal standard.

However, Quoc teaches the system where the comparison standard establishing means establishes a temporal standard (Quoc, col. 7, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable the use of a temporal standard. One would be motivated to do so in order to allow the nodes to synchronize after coming out of the initialization process.

13. With respect to claim 4, Frazier teaches the invention described in claim 3, including the system where the comparing means comprises:

Means for choosing between the first purported master node and the second purported master node if the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35); and, means for determining which one of the first purported master node and the second purported master node was most recently selected to obtain a most recently selected purported master node if the first purported master node and the second purported master node were not selected simultaneously (Frazier, col. 12, lines 20-32).

14. Claims 23, 24, 43 and 44 do not teach or define any new limitations above claims 3 and 4 and therefore are rejected for similar reasons.

15. Claims 5-7, 25-27, and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frazier in view of Quoc and further in view of Lind (US 2002/0080807).

Frazier teaches the invention substantially as claimed including a method in a node within a network computing system for selecting a master network manager. A first node shifts to a standby mode if it discovers a master subnet manager or the second priority is higher than the first priority. The first node shifts to a master mode if a response containing a priority higher than the first priority is absent in responses received by the first node. In the case where the priority received is equal, the comparison is further made in which the node with the lowest globally unique identifier wins the arbitration.

16. With respect to claim 5, Frazier teaches the invention described in claim 4, including means for choosing between the first purported master node and the second purported master node if the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35).

Frazier does not explicitly teach use of a temporal standard.

However, Quoc teaches the system where the comparison standard establishing means establishes a temporal standard (Quoc, col. 7, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable the use of a temporal standard. One would be motivated to do so in order to allow the nodes to synchronize after coming out of the initialization process.

Frazier teaches the invention described including means for choosing between the first purported master node and the second purported master node if the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35).

Frazier does not explicitly teach use of a temporal standard.

However, Quoc teaches the system where the comparison standard establishing means establishes a temporal standard (Quoc, col. 7, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable the use of a temporal standard. One would be motivated to do so in order to allow the nodes to synchronize after coming out of the initialization process.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches a system where the choosing means includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

17. With respect to claim 6, Frazier teaches the invention described in claim 4, including the system where the determining means comprises means for picking the most recently selected purported master node as the master node (Frazier, col. 12, lines 20-32).

18. With respect to claim 7, Frazier teaches the invention described in claim 6, including the system where the determining means comprises means for picking the most recently selected purported master node as the master node (Frazier, col. 12, lines 20-32).

Frazier does not teach determining times when nodes were selected to be master.

However, Quoc teaches the system where the picking means comprises: first means for determining when the first purported master node was selected master of the network to obtain a first time of selection; second means for determining when the second purported master node was selected the master of the network to obtain a second time of selection (Quoc, col. 6, lines 54-57); third means for comparing the first time with the second time to obtain the most recently selected purported master node; and, fourth means, responsive to operation of the third means, for allowing the most recently selected purported master node to be the master node and for demoting other than the most recently selected master node to

non-master-node status as a participating node in the plurality of nodes (Quoc, col. 6, line 66 – col. 7, line 53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to determine times at which nodes were selected to be master. One would be motivated to do so in order to allow for a comparison between two nodes for purposes of arbitration.

19. Claims 25-27 and 45-47 do not teach or define any new limitations above claims 5-7 and therefore are rejected for similar reasons.

20. Claims 8, 9, 16, 17, 28, 29, 36, 37, 48, 49, 56, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frazier in view of Quoc in view of Lind and further in view of Michelson et al. (U.S. 6,665,730).

Frazier teaches the invention substantially as claimed including a method in a node within a network computing system for selecting a master network manager. A first node shifts to a standby mode if it discovers a master subnet manager or the second priority is higher than the first priority. The first node shifts to a master mode if a response containing a priority higher than the first priority is absent in responses received by the first node. In the case where the priority received is equal, the comparison is further made in which the node with the lowest globally unique identifier wins the arbitration.

21. With respect to claim 8, Frazier teaches the invention described in claim 7, including choosing between the first purported master node and the second purported master node if the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35).

Frazier does not explicitly teach use of a temporal standard.

However, Quoc teaches the system where the comparison standard establishing means establishes a temporal standard (Quoc, col. 7, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable the use of a temporal standard. One would be motivated to do so in order to allow the nodes to synchronize after coming out of the initialization process.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the computer program product where the choosing program code includes IP program code for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier, Quoc, and Lind does not explicitly teach recording the local time of selection of a master node.

However, Michelson teaches the system where the first means comprises: fifth means, included within the first purported master node for recording first purported master node local time of selection of the first purported master node as the master node as recorded the first time of selection, for measuring duration of the selection of the first purported master node to obtain a first selection duration, and for communicating the first selection duration to all other of the nodes in the plurality (Michelson, col. 5, lines 18-32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier, Quoc, and Lind in view of Michelson in order to enable recording the local time of selection of a master node. One would be motivated to do so in order to effectively and efficiently route transaction-based messages within the network.

22. With respect to claim 9, Frazier teaches the invention described in claim 8, including choosing between the first purported master node and the second purported master node if the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35).

Frazier does not explicitly teach use of a temporal standard.

However, Quoc teaches the system where the comparison standard establishing means establishes a temporal standard (Quoc, col. 7, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable the use of a temporal standard. One would be motivated to do so in order to allow the nodes to synchronize after coming out of the initialization process.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do

so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the computer program product where the choosing program code includes IP program code for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier, Quoc, and Lind does not explicitly teach recording the local time of selection of a master node.

However, Michelson teaches the system where the second means comprises sixth means, included within the second purported master node for recording second purported master node local time of selection of the second purported master node as the master node as recorded the second time of selection, for measuring duration of the selection of the second purported master node to obtain a second selection duration, and for communicating the second selection duration to all other of the nodes in the plurality (Michelson, col. 5, lines 18-32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier, Quoc, and Lind in view of Michelson in order to enable recording the local time of selection of a master node. One would be motivated to do so in order to effectively and efficiently route transaction-based messages within the network.

23. With respect to claim 16, Frazier teaches the invention described in claim 8, including the system where the fifth means includes means for communicating via the DDB in the first purported master node to the DDB in each of the all other of the nodes in the plurality (Frazier, col. 12, lines 23-29).

24. With respect to claim 17, Frazier teaches the invention described in claim 9, including the system where the sixth means includes means for communicating via the DDB in the second purported master node to the DDB in each of the all other of the nodes in the plurality (Frazier, col. 12, lines 23-29).

25. Claims 28, 29, 36, 37, 48, 49, 56 and 57 do not teach or define any new limitations above claims 8, 9, 16 and 17 and therefore are rejected for similar reasons.

26. Claims 10-15, and 30-35, and 50-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frazier in view of Quoc in view of Lind in view of Michelson and further in view of Bodnar et al. (U.S. 6,295,541).

Frazier teaches the invention substantially as claimed including a method in a node within a network computing system for selecting a master network manager. A first node shifts to a standby mode if it discovers a master subnet manager or the second priority is higher than the first priority. The first node shifts to a master mode if a response containing a priority higher than the first priority is absent in responses received by the first node. In the case where the priority received is equal, the comparison is further made in which the node with the lowest globally unique identifier wins the arbitration.

27. With respect to claim 10, Frazier teaches the invention described in claim 9, including choosing between the first purported master node and the second purported master node if the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35).

Frazier does not explicitly teach use of a temporal standard.

However, Quoc teaches the system where the comparison standard establishing means establishes a temporal standard (Quoc, col. 7, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable the use of a temporal

standard. One would be motivated to do so in order to allow the nodes to synchronize after coming out of the initialization process.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the computer program product where the choosing program code includes IP program code for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier, Quoc, and Lind does not explicitly teach recording the local time of selection of a master node.

However, Michelson teaches the method where the second means comprises recording second purported master node local time of selection of the second purported master node as the master node as recorded the second time of selection; measuring duration of the selection of the second purported master node to obtain a second selection duration; and, communicating the second selection duration to all other of the nodes in the plurality (Michelson, col. 5, lines 18-32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier, Quoc, and Lind in view of Michelson in order to enable recording the local time of selection of a master node. One would be

motivated to do so in order to effectively and efficiently route transaction-based messages within the network.

The combination of Frazier, Quoc, Lind and Michelson does not explicitly teach conversion of times to a common time.

However, Bodnar teaches seventh means, for noting local time of receipt of communication of the first selection duration and for subtracting the first selection duration from the local time of receipt of the first selection duration to obtain first adjusted local time; eighth means for noting local time of receipt of communication of the second selection duration and for subtracting the second selection duration from the local time of receipt of the second selection duration to obtain second adjusted local time; ninth means for comparing the first adjusted local time and the second adjusted local time to determine most recent adjusted local time (Bodnar, col. 25, line 53 - col. 26, line 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier, Quoc, Lind and Michelson in view of Bodnar in order to enable the conversion of times to a common time. One would be motivated to do so in order to compare timestamps from different clients during conflict resolution.

28. With respect to claim 11, Frazier teaches the invention described in claim 10, including choosing between the first purported master node and the second purported master node if the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35).

Frazier does not explicitly teach use of a temporal standard.

However, Quoc teaches the system where the comparison standard establishing means establishes a temporal standard (Quoc, col. 7, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable the use of a temporal standard. One would be motivated to do so in order to allow the nodes to synchronize after coming out of the initialization process.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the computer program product where the choosing program code includes IP program code for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier, Quoc, and Lind does not explicitly teach recording the local time of selection of a master node.

However, Michelson teaches the method where the second means comprises recording second purported master node local time of selection of the second purported master node as the master node as recorded the second time of selection; measuring duration of the selection of the second purported master node to obtain a second selection duration; and,

communicating the second selection duration to all other of the nodes in the plurality (Michelson, col. 5, lines 18-32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier, Quoc, and Lind in view of Michelson in order to enable recording the local time of selection of a master node. One would be motivated to do so in order to effectively and efficiently route transaction-based messages within the network.

The combination of Frazier, Quoc, Lind and Michelson does not explicitly teach conversion of times to a common time.

However, Bodnar teaches eleventh means located within the first purported master node comprising: twelfth means for noting local time of arrival of the second selection duration and for subtracting the second selection duration to obtain first purported master node adjusted competitive local time (Bodnar, col. 25, line 53 - col. 26, line 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier, Quoc, Lind and Michelson in view of Bodnar in order to enable the conversion of times to a common time. One would be motivated to do so in order to compare timestamps from different clients during conflict resolution.

29. With respect to claim 12, Frazier teaches the invention described in claim 11, including choosing between the first purported master node and the second purported master node if

the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35).

Frazier does not explicitly teach use of a temporal standard.

However, Quoc teaches the system where the comparison standard establishing means establishes a temporal standard (Quoc, col. 7, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable the use of a temporal standard. One would be motivated to do so in order to allow the nodes to synchronize after coming out of the initialization process.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the computer program product where the choosing program code includes IP program code for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier, Quoc, and Lind does not explicitly teach recording the local time of selection of a master node.

However, Michelson teaches the method where the second means comprises recording second purported master node local time of selection of the second purported master node as the master node as recorded the second time of selection; measuring duration of the selection of the second purported master node to obtain a second selection duration; and, communicating the second selection duration to all other of the nodes in the plurality (Michelson, col. 5, lines 18-32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier, Quoc, and Lind in view of Michelson in order to enable recording the local time of selection of a master node. One would be motivated to do so in order to effectively and efficiently route transaction-based messages within the network.

The combination of Frazier, Quoc, Lind and Michelson does not explicitly teach conversion of times to a common time.

However, Bodnar teaches fifteenth means located within the second purported master node comprising; sixteenth means for noting local time of arrival of the first selection duration and for subtracting the first selection duration to obtain second purported master node adjusted competitive local time; seventeenth means for comparing the second purported master node adjusted competitive local time with the second purported master node local time of selection to obtain a second most recent selection time (Bodnar, col. 25, line 53 - col. 26, line 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier, Quoc, Lind and Michelson in view of

Bodnar in order to enable the conversion of times to a common time. One would be motivated to do so in order to compare timestamps from different clients during conflict resolution.

30. With respect to claim 13, Frazier teaches the invention described in claim 12, including choosing between the first purported master node and the second purported master node if the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35).

Frazier does not explicitly teach counting the number of times each master node is identified.

However, Quoc teaches the system further comprising: summation means, operative with the tenth means, the fourteenth means and the eighteenth means for tallying the number of times the first purported master node is identified to obtain a first total and the number of times the second purported master node is identified to obtain a second total; if the first total equals the second total, tiebreaking means for choosing between the first purported master node and the second purported master node (Quoc, col. 7, line 61 – col. 8, line 8); and, if the first total does not equal the second total, final master node selection means for selecting the first purported master node as master node if the first total is greater than the second total and for selecting the second purported master node as master node if the second total is greater than the first total (Quoc, col. 6, line 66 – col. 7, line 53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable counting the number of times

each master node is identified. One would be motivated to do so in order to facilitate arbitration between two nodes claiming to be the master node.

31. With respect to claim 14, Frazier teaches the invention described in claim 13, including choosing between the first purported master node and the second purported master node if the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35).

Frazier does not explicitly teach use of a temporal standard.

However, Quoc teaches the system where the comparison standard establishing means establishes a temporal standard (Quoc, col. 7, lines 19-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable the use of a temporal standard. One would be motivated to do so in order to allow the nodes to synchronize after coming out of the initialization process.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the method where the choosing includes IP means for picking the first purported node if the IP address of the first purported master node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do

so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

The combination of Frazier and Quoc does not explicitly teach the use of IP addresses for settling arbitration between two nodes.

However, Lind teaches the system where the tiebreaking means include other IP means for picking the first purported master node as the master node if the IP address of the first purported node is lower than the IP address of the second purported master node and vice versa (Lind, pages 2-3, paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Frazier and Quoc in view of Lind in order to enable the use of IP addresses to settle arbitration between two nodes. One would be motivated to do so in order to utilize the IP addresses of the nodes on the network to designate a master node and slave nodes.

32. With respect to claim 15, Frazier teaches the invention described in claim 13, including choosing between the first purported master node and the second purported master node if the first purported master node and the second purported master node were selected simultaneously (Frazier, col. 10, lines 27-35).

Frazier does not explicitly teach demoting the node which has the lesser of the total identifications.

However, Quoc teaches the system where the final master node selection means includes demoting means for demoting the first purported master node to non-master node status as a

participating node within the plurality of nodes if the first total is less than the second total, and for demoting the second purported master node to non-master node status as a participating node within the plurality of nodes if the second total is less than the first total (Quoc, col. 6, line 66 – col. 7, line 53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Quoc in order to enable counting the number of times each master node is identified. One would be motivated to do so in order to facilitate arbitration between two nodes claiming to be the master node.

33. Claims 30-35 and 50-55 do not teach or define any new limitations above claims 10-15 and therefore are rejected for similar reasons.

34. Claims 18, 38, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frazier and further in view of Logan et al. (U.S. 5,968,121).

Frazier teaches the invention substantially as claimed including a method in a node within a network computing system for selecting a master network manager. A first node shifts to a standby mode if it discovers a master subnet manager or the second priority is higher than the first priority. The first node shifts to a master mode if a response containing a priority higher than the first priority is absent in responses received by the first node. In the

case where the priority received is equal, the comparison is further made in which the node with the lowest globally unique identifier wins the arbitration.

35. With respect to claim 18, Frazier teaches the invention described in claim 1, including means for selecting the master node from the group of nodes consisting of the first purported master node and the second purported master node based on the comparison results (Frazier, col. 12, lines 20-32).

Frazier does not explicitly teach the nodes existing in differing time zones.

However, Logan teaches the system where the network is globally-dispersed and at least some of the plurality of nodes are located in different times zones from other of the plurality of nodes (Logan, Fig. 2; col. 6, lines 32-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Frazier in view of Logan in order to allow for nodes existing in differing time zones. One would be motivated to do so in order to enable nodes at disparate locations to communicate.

36. Claims 38 and 58 do not teach or define any new limitations above claim 18 and therefore are rejected for similar reasons.

Response to Arguments

37. Applicant's arguments filed 16 December 2005 have been fully considered, but they are not persuasive for the reasons set forth below.

38. ***Applicant Argues:*** As to claim 1, Applicant states "Frazier does not disclose a technique for resolution between two master nodes, purported or otherwise, at least because it does not disclose two co-existing master nodes in the first place."

In Response: The examiner respectfully submits that in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., two nodes simultaneously co-exist as masters (termed "purported" masters because of the ambiguity, but co-exist with equal master status until resolved)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). This renders the rejection proper, and thus rejection stands.

39. ***Applicant Argues:*** As to claim 1, Applicant states "Frazier does not disclose a distributed directory database (DDB)."

In Response: The examiner respectfully submits that in response to applicant's arguments, the recitation 'a distributed directory database (DDB)' has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). This renders the rejection proper, and thus rejection stands.

40. ***Applicant Argues:*** As to claim 1, Applicant states "Frazier does not disclose avoiding a single point of failure."

In Response: The examiner respectfully submits that in response to applicant's arguments, the recitation 'a single point of failure' has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). This renders the rejection proper, and thus rejection stands.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Baturay whose telephone number is (571) 272-3981. The examiner can normally be reached at 7:30am - 5pm, Monday - Thursday, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alicia Baturay
February 27, 2006

SALEH NAJJAR
SUPERVISORY PATENT EXAMINER